California Energy Commission

STAFF REPORT

LOCALIZED HEALTH IMPACTS REPORT

For Selected Projects Awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation PON-14-608 – Natural Gas Fueling Infrastructure

CALIFORNIA
ENERGY COMMISSION
Edmund G. Brown Jr., Governor

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ABSTRACT

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This statute, amended by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the California Energy Commission to "develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the state's climate change policies." Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the ARFVTP through January 1, 2024.

AB 118 also directs the California Air Resources Board (ARB) to develop guidelines to ensure air quality improvements. The ARB Air Quality Improvement Program (AQIP) Guidelines, approved in 2008, are published in the *California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1, AB 118 Air Quality Guidelines for the Alternative and Renewable Fuel and Vehicle Technology Program and the AQIP*. The *AQIP Guidelines* require the Energy Commission, as the funding agency, to analyze the localized health impacts of ARFVTP-funded projects that require a permit (13 CCR § 2343). As provided by 13 CCR § 2343, this *Localized Health Impacts Report* is required to be available for public comment for 30 days prior to the approval of projects.

This *Localized Health Impacts Report* analyzes the combined impacts in the communities, including exposure to air contaminants or localized air contaminants, or both, and including, but not limited to, communities of minority populations or low-income populations, as declared by the natural gas fueling infrastructure proposers or as determined by Energy Commission staff. Appendix A, Localized Health Impact Report Assessment Method, describes the analysis used for this *Localized Health Impacts Report.*

Keywords: Air pollution**,** air quality, Air Quality Improvement Program (AQIP), California Air Resources Board (ARB), alternative fuel, Assembly Bill (AB) 118, California Environmental Quality Act (CEQA), criteria emissions, demographics, environmental justice (EJ) indicators, Environmental Justice Screening Method (EJSM), greenhouse gas emissions (GHG), localized health impact (LHI)

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EXECUTIVE SUMMARY

Under the *California Code of Regulations Title 13, (CCR § 2343),* this *Localized Health Impacts Report* describes the alternative fuel demonstration projects proposed for Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) funding that may or may not require a conditional or discretionary permit or environmental review, such as conditional use permits, air quality permits, wastewater permits, hazardous waste disposal permits, and other land-use entitlements. This report does not include projects that require only residential building permits, mechanical/electrical permits, or fire/workplace safety permits, as these are determined to have no likely impact on the environment.

The California Energy Commission is required to assess the localized health impacts of the projects proposed for ARFVTP funding. This *Localized Health Impacts Report* focuses on the potential impacts projects may or may not have on a particular community, particularly those communities that are considered especially vulnerable to emissions increases. For high-risk communities, this report assesses the impacts from criteria emissions/air toxics and the air quality attainment status.

Environmental justice communities, low-income communities, and minority communities are considered to be the most impacted by any project that could result in increased criteria and toxic air pollutants within an area because these communities typically have the most significant exposure to the emissions. Assessing projects and the communities surrounding them is important because of the health risks associated with these pollutants. Preventing health issues from air pollution in any community is important, but it is especially important to minimize any negative impacts in communities that are already considered to be at risk due to their continued exposure to these contaminants.

The projects in this *Localized Health Impacts Report* are assessed for potential health impacts for the communities in which it will be located. Based on this analysis, it is not anticipated that implementation of these projects will have negative impacts because there will not be a net increase in criteria and toxic emissions, specifically in those communities that are considered most vulnerable. Potentially, the projects stand to provide improved quality of life through cleaner air.

CHAPTER 1:
Projects Proposed for Funding

On March 18, 2015, the California Energy Commission released competitive Grant Solicitation PON-14-608, titled "Natural Gas Fueling Infrastructure," under the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This grant solicitation was an offer to fund projects that establish or expand infrastructure necessary to store, distribute, and dispense compressed natural gas (CNG) for use in natural gas vehicles.

On August 12, 2015, the Energy Commission posted the notice of proposed awards (NOPA) for PON-14-608, resulting in 13 projects proposed for funding. This *Localized Health Impact Report* assesses and reports on the potential localized health impacts of the proposed projects with public review and comment for a 30-day period.

This chapter summarizes the projects proposed for Energy Commission funding. Table 1 provides the company, project name, project address, and environmental justice indicators. (See Appendix A.)

Table 1: Proposed Projects for Natural Gas Fueling Infrastructure With Environmental Justice (EJ) Indicators

Applicant	Project Name	Project Address	EJ Indicator(s)
Beaumont Unified School District	Beaumont USD CNG Filling Station Upgrades	1001 Cougar Way, Beaumont, California 92223	Minority and Age
City of Sacramento	City of Sacramento Establishment of New CNG Infrastructure	918 Del Paso Road, Sacramento, California 95834	Poverty and Unemployment
City of San Diego	Compressed Natural Gas Fueling Station at the Environmental Services Operations Station	8353 Miramar Place, San Diego, California 92121	Poverty
Fontana Unified School District	Foreign Oil Reduction – Transportation Resources Investment in Infrastructure, Informatics and Power Systems	9851 Catawba Avenue, Fontana, California 92334	Poverty, Minority, Age, and Unemployment
Fresno Unified School District	Fresno Unified School District – CNG Fuel Station Expansion – Phase 4	4498 North Brawley Avenue, Fresno, California 93722	Poverty, Minority, Age, and Unemployment

Applicant	Project Name	Project Address	EJ Indicator(s)
Fullerton Joint Union High School	CNG Fueling Infrastructure	1050 South Leslie Street, La Habra, California 90631	Minority
Huntington Beach Union High School District	Huntington Beach Union High School District CNG Filling Station	7180 Yorktown Avenue, Huntington Beach, California 92648	Age
Kern County Superintendent of Schools	Kern CNG Portable Refueling Program	705 South Union Avenue, Bakersfield, California 93307	Poverty, Minority, Age, and Unemployment
Kings Canyon Unified School District	Canyon Air Repair (CAR) Project	1600 South Apple Avenue, Reedley, California 93654	Poverty, Minority, Age, and Unemployment
Las Gallinas Valley Sanitary District	Las Gallinas Valley Sanitary District Natural Gas Fueling Infrastructure Installation	300 Smith Ranch Road, San Rafael, California 94903	Minority and Age
Lindsay Unified School District	LUSD CNG Fueling Station Upgrade	250 North Harvard Avenue, Lindsay, California 93247	Poverty, Minority, Age, and Unemployment
Rialto Unified School District	CNG Fueling Station and Transportation Yard	South Lilac Avenue between West Rialto and West Merrill Avenue, Rialto, California (APNs 0131-012-01 and 0131-012-08)	Poverty, Minority, Age, and Unemployment
Sanger Unified School District	Reduced Emissions And Consolidated Transportation (REACT) Initiative	1199 Commerce Way, Sanger, California 93657	Poverty, Minority, Age, and Unemployment

Source: California Energy Commission staff analysis

Beaumont Unified School District

Project Name: Beaumont Unified School District (BUSD) CNG Filling Station Upgrades

This project proposes to install a CNG filling station infrastructure in place of the existing CNG station for the BUSD in Beaumont (Riverside County). The new CNG filling station at the BUSD transportation yard will serve the needs of the district and City of Beaumont CNG vehicles. This new filling station will have additional CNG filling capacity to accommodate the needs of a growing CNG fleet. The project plans to build a new equipment pad and enclosure, install new electrical gear, install new compressors and storage, then route new underground piping for the new hoses and fill nozzles.

The proposed site is the location of the district's CNG bus facility, where the vehicles are parked and filled. BUSD will have more capacity at its new CNG station compared to the existing station. Since standard school buses run on diesel fuel that emits higher pollution, the new CNG station and the cleaner burning CNG buses are anticipated to reduce soot and other pollutants.

The proposed site is within one mile of five schools, two day care centers, and no medical offices/hospitals.

City of Sacramento

Project Name: City of Sacramento Establishment of New CNG Infrastructure

The City of Sacramento plans to establish a new CNG fueling infrastructure to fuel its 28 CNG vehicles, which consume more than 100,000 gallons of CNG annually. There is no CNG infrastructure within a 10-mile radius to sustain the city's growing CNG fleet. Existing quantity of throughput is nearly 60,000 gallons a year of CNG, with the potential for an additional projected 18,000 gallons if the city replaces diesel vehicles with viable CNG options.

The City of Sacramento records show that the city used more than 59,000 gallons of CNG from March 2014 to March 2015. There is an opportunity to transition existing diesel vehicles to CNG. The 46 of 638 vehicles scheduled for replacement between 2015 and 2020 have CNG replacement options. Those vehicles operate on diesel but have the potential to add 18,000 gallons of annual CNG throughput to the current fuel consumption numbers by 2020. These vehicles, combined with existing CNG vehicles due for replacement, represent 146,300 gallons of annual CNG throughput by 2020. The new CNG station will increase capacity, which would make replacement of diesel and liquefied natural gas (LNG) vehicles with CNG vehicles a more viable option.

The proposed station will be located on the north end of the City of Sacramento's North Area Corporation Yard (NACY). NACY is where the city operates a majority of its CNG vehicles.

The particular location was selected based on the neighboring area CNG station availability. Although the Regional Transit CNG station is located at 3701 Dudley Blvd, McClellan Park, CA 95652, vehicle operators spend an average of 19 minutes in round-trip travel, plus an additional 5-8 minutes to fuel up the vehicle tank. Travel time plus fueling minutes equates to an average of 27 minutes for an operator to fuel a vehicle. With the proposed CNG infrastructure at NACY, the efficiency in fueling CNG trucks will increase due to the decrease in round-trip travel from the current fuel site.

The city is scheduled to replace a total of 46 vehicles with a CNG replacement option from 2015 through 2020. Of these, all the vehicles use diesel. Funding for the new CNG infrastructure will allow the city to easily replace nearly or exactly all these vehicles with CNG units. Also, it will enable the city to continue to grow its CNG fleet in the years beyond 2020. The proposed project will establish a new CNG fueling infrastructure at NACY that will help reduce greenhouse gas emissions.

The proposed site is within one mile of five schools, three day care centers, and five medical offices/hospitals.

City of San Diego

Project Name: Compressed Natural Gas Fueling Station at the Environmental Services Operations Station

The proposed project, once all three phases of the fueling station project are complete, will have the ability to service the city's fleet of 140 refuse and recycling collection vehicles by converting to CNG. It is estimated that the fleet will use 1.4 million therms of natural gas annually, replacing nearly 1 million gallons of low-sulfur diesel.

The proposed CNG station serves the need to fuel a large quantity (140) of heavy-duty refuse and recycling collection vehicles during vehicle down time (in the evening). There is not existing infrastructure that can accommodate the size of the city's fleet.

As the proposed fueling station will be in an operations yard and inaccessible to the public, the station will serve solely the City of San Diego's refuse and recycling collection fleet that will be converted from low-sulfur diesel to CNG in a phased approach beginning in July 2016. The vehicle replacement schedule calls for the replacement of about 30 vehicles per year from 2016 to 2020 until the entire population of vehicles (140) has been replaced.

The proposed site is within one mile of four schools, no day care centers, and four medical offices/ hospitals.

Fontana Unified School District

Project Name: Foreign Oil Reduction – Transportation Resources Investment in Infrastructure, Informatics, and Power Systems

This project will allow the expansion of CNG vehicle (for example, a school bus) usage at Fontana Unified School District's (FUSD – San Bernardino County) CNG refueling station and will reduce regulated emissions in the Inland Empire, in addition to reducing dependence on foreign petroleum fuel oil. The proposed project is anticipated to lower the district's overall

modal transportation costs and improve the efficacy, performance, and market viability of FUSD's CNG school bus fleet to the local community. FUSD has a very limited fueling capacity for its current CNG bus fleet with only two CNG supply compressors. The compressors for the last eight years have been running in excess of 12 hours per day per compressor to fulfill the CNG demand of FUSD's current CNG bus fleet (29 CNG buses). Expanding the facility will help meet the needs of the current FUSD CNG fleet.

The proposed site is located within one mile of six schools, three day care centers, and seven medical offices/hospitals.

Fresno Unified School District

Project Name: Fresno Unified School District CNG Fuel Station Expansion

Fresno Unified School District has increased the total number of CNG school buses to 59 in its fleet. However, an additional 28 diesel school buses need to be replaced to complete the school bus fleet conversion. In 2014, Fresno Unified secured another Congestion Mitigation and Air Quality (CMAQ) Program[1] grant to purchase four more CNG school buses. This fall of 2015, Fresno Council of Governments will issue a new cycle for CMAQ grants where Fresno Unified will apply for funds to purchase additional CNG school buses. In addition, Fresno Unified will qualify for new school bus replacement through the Measure C Program by 2016. To prepare for the acquisition of new CNG school buses, Fresno Unified seeks funding for Phase 4 Expansion of the CNG Fuel Station. The San Joaquin Valley Air Basin is in nonattainment of both state and federal air quality standards for ozone and particulate matter. As each school bus operates an average 90 miles/day, this project will annually reduce toxic emissions by supporting Fresno Unified's progress to complete the school bus conversion to a "green fleet."

The proposed site is within a mile of two schools, four day care centers, and six medical offices/ hospitals.

Fullerton Joint Unified High School District

Project Name: CNG Fueling Infrastructure

Fullerton Joint Unified High School District (FJUHSD – Orange County) has 19 CNG school buses and has applied for grants to replace 6 more diesel school buses. Fueling of these 19 buses occurs through two 58 standard cubic feet per minute compressors supplying time fill fuel to 6 dual-hose posts and one single-hose post. This equipment is nearing the end of useful life, requires frequent maintenance, and needs to be replaced and expanded to accommodate the current and future CNG needs of the district's fleet.

1 http://www.fhwa.dot.gov/environment/air_quality/cmaq/

This proposed project will allow the district to retire dirtier diesel and older gasoline-powered buses, which saves the district money on fuel costs, vehicle maintenance, and replacement, and reduces carbon emissions.

By providing fuel to the public and neighboring public/private agencies, the district will be able to assist in the proliferation of CNG as an alternative fuel source and thereby have a role in cleaning the air of pollutants. Having a fast-fill option will allow the district to begin replacing its service vehicle fleet with CNG-powered vehicles, which require a fast-fill component to be practical. The service vehicle fleet of the school district consists of 80 - 85 service trucks, vans, and sedans.

The objectives of this agreement are to upgrade and expand the current CNG infrastructure to accommodate the existing and future CNG needs of the district's fleet. Moreover, the district has letters of intent from a neighboring school district as well as the City of La Habra to obtain CNG fuel through FJUHSD. In addition, FJUHSD sees vending to the public as a need in the local industrial, commercial, and residential communities. Vending CNG fuel to the public will satisfy a current need while reducing the environmental impact of petroleum fuel products.

The proposed site is within one mile of five schools, two day care centers, and seven medical offices/hospitals.

Huntington Beach Union High School District

Project Name: Huntington Beach Union High School District CNG Filling Station

This project proposes the design and construction of a new CNG fill station at the Huntington Beach Union High School District (HBUHSD) in Huntington Beach (Orange County). The HBUHSD will own and operate the new CNG facility and use it to fuel the district's expanding CNG bus fleet. The district has 11 CNG buses in its fleet and is looking to upgrade about 13 more from diesel to CNG in the very near future. The existing CNG station, located at the HBUHSD Maintenance, Operations, and Transportation facility, can accommodate only 11 vehicles with an overnight slow-fill, so any additional CNG buses will need to be driven to an off-site retail CNG fill station each day. This capacity issue is preventing the district from upgrading the rest of its student transportation fleet from old diesel buses to cleaner-burning CNG buses. The existing station infrastructure is at maximum capacity and cannot support any expansion, so its demolition and the construction of a new station have been deemed financially desirable. The project will construct a 24-station CNG plant, therefore positioning HBUHSD to convert the rest of its diesel buses to CNG, as required by the South Coast Air Quality Management District.

The proposed site is within one mile of 10 schools, 4 day care centers, and 8 medical offices/hospitals.

Kern County Superintendent of Schools

Project Name: Kern CNG Portable Refueling Program

The Kern CNG Portable Refueling Program will build upon the two previous CNG expansion efforts of Kern County Superintendent of Schools (KCSOS). This proposed project will add more infrastructure to the CNG fueling station to accommodate CNG refueling trailers. It will provide the ability to the local CNG fueling station to fill private and public CNG refueling trailers, with a high-volume dispenser specifically designed for refueling CNG portable trailers. The expansion will help meet demands in remote areas serving school districts and the community.

KCSOS provides a wide range of transportation services to more than 47 school districts. The current school bus fleet consists of 57 CNG-powered school buses and 30 diesel-powered school buses. Serving Kern County's highest risk students, KCSOS provides daily transportation to 950 special education children. These buses travel a total of 2.3 million miles during the school year or an average of more than 31,000 miles per bus route. Cleaner-burning CNG buses reduce vehicle emissions and can reduce the children's exposure to harmful diesel emissions.

The proposed site is within one mile of two schools, three day care centers, and four medical offices/hospitals.

Kings Canyon Unified School District

Project Name: Canyon Air Repair (CAR) Project

The Kings Canyon Unified School District (Fresno County) will purchase a dispenser, compressor, and dryer equipment for the fueling infrastructure at the Central Valley Transportation Center. The Central Valley Transportation Center (CVTC) combines daily operations of the district transportation facilities and the City of Reedley's Public Works Department into one facility. To align with the goals and principles of the CVTC, which is "Good Jobs, Clean Energy, and Green Education," the district is requesting funds from the California Energy Commission to outfit the CVTC with natural gas fuel infrastructure. The goals of the CAR Project are to provide reliable public CNG fueling access and reliable access to the district's buses and Reedley's alternative fuel vehicles.

The new compressor, dispenser, and dryer for the natural gas fueling infrastructure will be on site at the district's Central Valley Transportation Center. The equipment will help decrease the use of diesel fuel within the service area and, thus, poor air quality. Furthermore, it will double the number of useable alternative fuel vehicles in Reedley.

The equipment will address the daily air quality status in the project area, so that every day is 47 (O3) or less (according to the San Joaquin Valley Air Pollution Control District daily forecast). The improvements will encourage healthy and active lifestyle choices for residents and students and reduce health risks of outside play.

The environmental benefits from the proposed project are more vehicles using cleaner-burning fuel, which results in cleaner air for the community in which the district is stationed as well as surrounding communities. This project will benefit a largely disadvantaged community of nearly 10,000 students within the district. The project will also directly benefit the community of Reedley and its 25,000 residents, while providing benefits to neighboring communities of Dinuba, Fowler, and Orange Cove.

The proposed site is within one mile of six schools, two day care centers, and four medical offices/hospitals.

Las Gallinas Valley Sanitary District

Project Name: Las Gallinas Valley Sanitary District Natural Gas Fueling Infrastructure Installation

The Las Gallinas Valley Sanitary District (LGVSD), teaming with Cornerstone Environmental Group, LLC and KJWW Engineering Consultants, proposes to install natural gas fueling infrastructure at its facility in San Rafael, California. This infrastructure will distribute CNG and renewable natural gas (RNG) produced on-site from the LGVSDs closed-loop biogas energy recovery system (BERS) at its wastewater treatment plant, to support LGVSD's future CNG fleet.

The proposed project will build and operate natural gas fueling infrastructure to support the LGVSD CNG fleet and distribute CNG and RNG to the fleet from the LGVSD's BERS. The project will provide a CNG fast-fill station and renewable CNG time-fill station to distribute fuel produced from the LGVSD BERS.

Based on the three diesel trucks that the facility operates most frequently, an estimated fuel efficiency of 4 miles per gallon is used to evaluate the annual GHG reductions. Each truck accumulates roughly 10,000 miles per year for a total of nearly 7,500 gallons of diesel. When conversion of the trucks occurs, 1,025,692 standard cubic feet (scf) of natural gas will be used, equating to 123,083 lbs of carbon dioxide (CO_2) per year at a unit of 0.120 lbs CO_2/standard cubic feet (scf), resulting in a nearly 27 percent reduction in GHG emissions. In addition, diesel engines are known to generate particulate matter emissions, which drop to near zero with natural gas.

The proposed site is within one mile of three schools, one day care center, and no medical offices/hospitals.

Lindsay Unified School District

Project Name: LUSD CNG Fueling Station Upgrade

The Lindsay Unified School District (LUSD – Tulare County) will replace an existing nonfunctioning CNG fueling station. The CNG replacement fueling station will be in the same location as the current nonfunctioning CNG station.

The overall goals and objectives of this project are to provide a highly cost-effective means to retain existing CNG throughput in Central California and to better serve LUSD's existing CNG fleet. The project proposer anticipates a net reduction in greenhouse gas and criteria pollutant emissions since the LUSD fleet would no longer have to drive up to 43 miles to use public access stations.

The proposed station upgrade would ensure the continued displacement of about 1,863 petroleum gallons as a result of the upgrade.

The proposed site is within one mile of eight schools, two day care centers, and six medical offices or hospitals.

Rialto Unified School District

Project Name: CNG Fueling Station and Transportation Yard

Rialto Unified School District (RUSD – San Bernardino County) proposes to complete Phase I of the project and provide infrastructure for two fast-fill pumps that will supply the district's 28 CNG school buses funded by the South Coast Air Quality Management District and the Mobile Source Air Pollution Reduction Review Committee and cofunded by RUSD.
The project will provide fast-fill fueling for RUSD's 28 existing CNG school buses during Phase I operations and fast-fill fueling for additional RUSD CNG school buses acquired during Phase I operations. The station will offer fast-fill fueling to the public and other school districts in Rialto, which has no publicly accessible CNG fueling stations.

The project would promote the use of CNG vehicles within the region by providing a publicly accessible fueling station and enabling the continued replacement of RUSD's diesel buses operating in the community. Therefore, project implementation will lead to a reduction in toxic air contaminants and improved air quality.

The proposed site is within one mile of six schools, four day care centers, and seven medical offices/hospitals.

Sanger Unified School District

Project Name: Reduced Emissions and Consolidated Transportation (REACT) Initiative

The proposed site is located in Sanger (Fresno County) in an industrial park fully planned and zoned for industrial uses. It consists of a two-phase project to build a parking lot that will serve the consolidated needs of the district, as well as the installation of a CNG fast-fill dispensing unit on one corner of the property.

Phase I of the REACT Initiative includes the building of a new, comprehensive transportation facility. This facility will consolidate all vehicle storage, maintenance, and fueling at the same location, significantly increasing efficiency within the department and allowing for the continued addition of new CNG vehicles.

Phase II of the REACT project includes the establishment of a new CNG fueling dispenser. This station would include a 3,600-pounds-per-square-inch compressor that would increase the district's ability to refuel additional CNG vehicles. This addition would permit Sanger Unified School District (SUSD) to continue expansion of its CNG vehicle fleet. The new compressor would also allow SUSD, and other school districts traveling to Sanger for student events, to fill 100 percent of the bus fuel tanks, thus increasing the overall usage of CNG vehicles within numerous school districts.

The proposed site is within one mile of four schools, two day care centers, and three medical offices/hospitals.

CHAPTER 2:
Approach

The *Localized Health Impact Report* (*LHI Report*) Assessment Method in Appendix A assesses communities potentially impacted by air pollution and possibly benefitted by the natural gas fueling infrastructure projects. The California Air Resources Board's (ARB) *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution for Assembly Bill (AB) 32 Assessments* is also used to integrate data to identify low-income communities that are highly impacted by air pollution.[2] Other resources used in this assessment are the *California Infrastructure State Implementation Plans,* [3] which contain publicly noticed air quality attainment plans, and the *Green Book Nonattainment Areas for Criteria Pollutants*[4].

For this *LHI Report*, the Energy Commission interprets "permits" to connote discretionary and conditional use permits because they require a review of potential impacts to a community and the environment before issuance. Since ministerial-level permits, such as building permits, do not assess public health-related pollutants, the Energy Commission staff does not assess projects requiring only ministerial level permits in this report.

The cities where the projects will be located are all in nonattainment zones for ozone, PM[5] 2.5, and PM 10. Table 1 shows the EJ indicators for the 13 projects in 13 cities, that is, minority populations, low incomes, and highly sensitive groups based on age (individuals younger than 5 years of age and older than 65 years of age). Table 2 shows the demographics. Ten cities are classified high-risk communities, according to the Environmental Justice Screening Method (EJSM). The cities classified as high-risk include Bakersfield, Beaumont, Fontana, Fresno, Lindsay, Reedley, Rialto, Sacramento, Sanger, and San Rafael. Three cities are not classified as high-risk, and they include Huntington Beach, La Habra, and San Diego.

Staff collected information about predicted emissions from all the project proposals. Activities conducted are not expected to have significant impact on emissions. Expanding the compressed natural gas infrastructure will lead to reduced greenhouse gas emissions and reduced petroleum use.

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2 California Air Resources Board, *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution, 2010* (Sacramento, California).

3 http://www.arb.ca.gov/planning/sip/sip.htm.

4 http://www.epa.gov/oaqps001/greenbk.

4 "Particulate matter" is unburned fuel particles that form smoke or soot and stick to lung tissue when inhaled, and is a chief component of exhaust emissions from heavy-duty diesel engines.

CHAPTER 3:
Summary

If funded, the proposed projects, involving primarily school district and city utilities, would result in 13 cities establishing or expanding natural gas fueling infrastructure that help to achieve both energy and climate change goals. The sites will increase the widespread use of compressed natural gas vehicles. As more vehicles enter the market and begin to displace gasoline and diesel vehicles, tailpipe pollutants will decrease significantly, especially in critical areas of the state such as the South Coast and San Joaquin air basins. Developing the infrastructure will lead to sustainable methods of moving freight, goods, and people.

The anticipated impacts to the communities where the projects are to be located are positive in terms of air quality and anticipated greenhouse gas reductions.

As indicated in Table 1, with further detail in Table 2, Bakersfield, Beaumont, Fontana, Fresno, Lindsay, Reedley, Rialto, Sacramento, Sanger, and San Rafael are high-risk communities, as identified in Appendix A. The demographic data presented in this *LHI* indicates higher concentrations of minority populations, especially Hispanic, along with children under 5, and those with low incomes and/or facing high employment. The anticipated benefit from the proposed projects for the people in these communities, especially the disadvantaged communities, is highly likely, if not certain, to be positive.

CHAPTER 4:
Acronyms

Air Quality Improvement Program (AQIP)
Air Resources Board (ARB)
Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP)
Assembly Bill (AB)
Beaumont Unified School District (BUSD)
Biogas energy recovery system (BERS)
California Code of Regulations (CCR)
California Environmental Quality Act (CEQA)
Canyon Air Repair (CAR)
Central Valley Transportation Center (CVTC)
Compressed natural gas (CNG)
Congestion Mitigation and Air Quality (CMAQ)
Environmental justice (EJ)
Environmental justice screening method (EJSM)
Fontana Unified School District (FUSD)
Fullerton Joint Unified High School District (FJUHSD)
Greenhouse gas (GHG)
Huntington Beach Union High School District (HBUHSD)
Kern County Superintendent of Schools (KCSOS)
Lindsay Unified School District (LUSD)
Las Gallinas Valley Sanitary District (LGVSD)
Localized health impact (LHI)
Notice of Proposed Awards (NOPA)
Particulate matter (PM)
Program Opportunity Notice (PON)
Reduced Emissions and Consolidated Transportation (REACT)
Renewable natural gas (RNG)
Rialto Unified School District (RUSD)
Sanger Unified School District (SUSD)
Standard cubic feet (scf)
State Implementation Plan (SIP)
Unified School District (USD)

Table 2: Environmental Justice (EJ) Indicators Compared With California

Yellow highlighted areas indicate numbers (percentages) that meet the definition for EJ indicators.

	Number of EJ Indicators by Category	Below Poverty Level (2009-2013)	Black Persons (2010)	American Indian and/or Alaska Native (2010)	Asian and/or Pacific Islander (2010)	Persons of Hispanic or Latino Origin (2010)	Persons Under 5 Years of Age (2010)	Persons Over 65 Years of Age (2010)	Unemployment Rate (August 2015)
California		**15.3%**	**6.2%**	**1.0%**	**13.0%**	**37.6%**	**6.8%**	**11.4%**	**6.1%**
			>30%	**>30%**	**>30%**	**>30%**	**>8.16%**	**>13.8%**	
Bakersfield	4	20.4%	8.2%	1.5%	6.2%	45.5%	9.0%	8.4%	8.3%
Beaumont	2	11.8%	6.2%	1.5%	7.7%	40.3%	9.1%	10.5%	4.2%
Fontana	4	15.5%	10.0%	1.0%	6.6%	66.8%	8.6%	5.7%	7.1%
Fresno	4	28.9%	8.3%	1.7%	12.6%	46.9%	8.9%	9.3%	9.7%
Huntington Beach	1	8.9%	1.0%	0.5%	11.1%	17.1%	5.1%	14.2%	4.3%
La Habra	1	13.4%	1.7%	0.9%	9.4%	57.2%	7.2%	10.9%	5.1%
Lindsay	4	42.5%	0.7%	1.1%	2.3%	85.5%	11.5%	7.5%	15.2%
Reedley	4	24.2%	0.7%	1.1%	3.3%	76.3%	9.2%	9.5%	8.6%
Rialto	4	19.1%	16.4%	1.1%	2.3%	67.6%	8.7%	7.0%	7.7%
Sacramento	2	21.9%	14.6%	1.1%	18.3%	26.9%	7.5%	10.6%	6.3%
San Diego	1	15.6%	6.7%	0.6%	15.9%	28.8%	6.2%	10.7%	4.9%
Sanger	4	22.7%	0.9%	1.3%	3.1%	80.5%	9.5%	9.4%	9.9%
San Rafael	2	12.2%	2.0%	1.2%	6.1%	30.0%	6.2%	15.8%	3.7%

Sources: Unemployment information from the State of California, Employee Development Department (EDD) Labor Market Information Division: http://www.labormarketinfo.edd.ca.gov/Content.asp?pageid=133 and Age / ethnicity demographics, U.S. Department of Census: http://quickfacts.census.gov

APPENDIX A:
Localized Health Impact Report Assessment Method

Based on the California Energy Commission's interpretation of the *California ARB* AQIP *Guidelines*, this *LHI Report* assesses the potential impacts to communities as a result of the projects proposed by the ARFVTP. This report is prepared under the *California ARB AQIP Guidelines, California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1 (CCR § 2343)*:

"(6) Localized health impacts must be considered when selecting projects for funding. The funding agency must consider environmental justice consistent with state law and complete the following:

> (A) For each fiscal year, the funding agency must publish a staff report for review and comment by the public at least 30 calendar days prior to approval of projects. The report must analyze the aggregate locations of the funded projects, analyze the impacts in communities with the most significant exposure to air contaminants or localized air contaminants, or both, including, but not limited to, communities of minority populations or low-income populations, and identify agency outreach to community groups and other affected stakeholders.
>
> (B) Projects must be selected and approved for funding in a publicly noticed meeting."

This *LHI Report* is not intended to be a detailed environmental health impact analysis of proposed projects nor is it intended to substitute for the environmental review conducted during the California Environmental Quality Act (CEQA) review. This *LHI Report* includes staff application of the Environmental Justice Screening Method (EJSM) to identify projects located in areas with social vulnerability indicators and the greatest exposure to air pollution and associated health risks.[6]

The EJSM was developed to identify low-income communities highly affected by air pollution for assessing the impacts of climate change regulations, specifically Assembly Bill 32 (Núñez, Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006. The EJSM integrates data on (i.) exposure to air pollution, (ii.) cancer risk, (iii.) ozone concentration, (iv.) frequency of high ozone days, (v.) race/ethnicity, (vi.) poverty level, (vii.) home ownership, (viii.) median household value, (ix.) educational attainment, and (x.) sensitive populations (populations under 5 years of age or over 65 years of age).

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6 California Air Resources Board (ARB). *Air Pollution and Environmental Justice, Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability Into Regulatory Decision-Making, 2010.* (Sacramento, California) Contract authors: Manuel Pastor Jr., Ph.D., Rachel Morello-Frosch, Ph.D., and James Sadd, Ph.D.

To determine high risk communities, environmental justice (EJ) indicators for locations of the natural gas fueling infrastructure are compared to data from the U.S. Department of Census or other public agency. Staff identifies high-risk communities by using a two-part standard. For a community to be considered high-risk, for this assessment, it must meet both Parts 1 and 2 of this standard.

Part 1:

- Communities located in nonattainment air basins for ozone, PM 10 or PM 2.5

Part 2:

- Communities having more than one of the following EJ indicators: (1) minority, (2) poverty, (3) unemployment and/or (4) high percentage of population under 5 years of age and over 65 years of age. The EJ indicators follow:

    - A minority subset represents more than 30 percent of a given city's population. (MINORITY)

    - A city's poverty level exceeds California's poverty level. (POVERTY)

    - A city's unemployment rate exceeds California's unemployment rate. (UNEMPLOYMENT)

    - The percentage of people living in that city are younger than 5 years of age or older than 65 years of age is 20 percent higher than the average percentage of persons under 5 years of age or over 65 years of age for all of California. (SENSITIVE POPULATIONS – AGE)